

REMARKS/ARGUMENTS

Applicants have received and carefully reviewed the Office Action of the Examiner mailed December 6, 2005. Claims 1-50 remain pending, with claims 13-37 withdrawn from consideration. Claims 1, 3, 38, 40, and 50 have been amended and claims 2 and 39 have been canceled. Support for the amendments is found in the specification, claims, and drawings as originally filed. No new matter has been added. Reconsideration and reexamination are respectfully requested.

Restriction

Applicants hereby affirm their election of Group I, claims 1-12 and 38-50, drawn to a sensing apparatus. Claims 13-37 are withdrawn from consideration.

Double Patenting

The Examiner asserts that claims 38-48 are substantial duplicates of claims 1-11. Applicants submit that claims 38-48, as amended, are not substantial duplicates of claims 1-11.

Rejection under 35 U.S.C. § 102(b)

Claims 1-9 and 38-46 are rejected as being anticipated by Brandon (GB 2208707A). Applicants respectfully traverse the rejection. Independent claim 1, as amended, recites a sensor comprising an enclosure having an input and an output, the enclosure including a permeable wall, a light source adjacent a first end of the enclosure and a light detector adjacent a second end of the enclosure where the enclosure is capable of containing a first fluid. Independent claim 38, as amended, recites a sensor including a tubular permeable membrane enclosure having an input and an output, a light source proximate to a first end of the enclosure, and a light detector proximate to a second end of the enclosure, where the enclosure is capable of containing a fluid.

Brandon does not appear to teach or suggest such a sensor. Brandon teaches a gas analyzer having a gas absorbing cell 15 connected via a delivery pipe 17 to an optical cell 18. See page 4, lines 16-24 and FIG. 1. Brandon teaches the gas absorbing cell as including a gas permeable membrane 48 within a cell body 40. See page 6, lines 9-21 and FIGS. 4-5. Brandon teaches the optical cell as including a body 61 having a transverse bore 62 forming an optical path, with a light source 69 mounted at one end and a photodetector 70 mounted at the other end. Brandon teaches a pump 14 pumping liquid reagents through the gas absorbing cell 15 and the optical cell 18. See page 8, lines 5-18 and FIGS. 1-6. Brandon appears to teach a device in which fluid passes through separate gas absorbing and optical cells. If one were to consider the cavity 41 formed by the body 40 and membrane 48 in the gas absorbing cell as the enclosure recited in the instant claims, Brandon fails to teach a light source adjacent a first end of the enclosure and a light detector adjacent a second end of the enclosure. Brandon appears to teach a light source and light detector in a separate optical cell connected to the gas absorbing cell by a delivery pipe. Brandon thus fails to teach each and every element of the claims as amended. Additionally, there is no motivation for one of ordinary skill in the art to modify the device of Brandon to achieve the instantly claimed sensor. Reconsideration and withdrawal of the rejection are respectfully requested.

Rejection under 35 U.S.C. § 103

Claims 10-12 and 47-50 are rejected as being unpatentable over Brandon in view of Chandler (US 6,592,822). The Examiner asserts that it would have been obvious to include multiple light sources, using lasers of different wavelengths, as well as including a flow sensor as taught by Chandler to expand the range of possible analytes to be detected. Applicants respectfully traverse the rejection.

As stated above, Brandon fails to teach the basic limitations of the claimed sensors. Chandler does not appear to provide what Brandon lacks. Additionally, there is no motivation for one of ordinary skill in the art to combine the teachings of Brandon and Chandler because

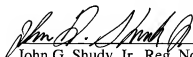
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they are directed to different devices involving different sensing properties and different components. Brandon is directed to a sensor for detecting gaseous compounds by detecting a color change when the gas contacts a reagent liquid. See page 1, lines 1-5. Chandler is directed to a flow cytometer for analyzing particles in a fluid mixture based on the particles' optical properties when passing through a laser beam. See column 1, lines 19-56. Applicants submit that there is no reason to combine the devices, and even if one were to make such a combination, one would not arrive at the claimed invention. It is not clear how such a combination would be made because the technologies of the two sensors are so different. It appears one would achieve a gas sensor of Brandon with lasers instead of the light-emitting diode taught by Brandon. However, it is not clear how the lasers of Chandler, which create light-scatter patterns when coming in contact with particles and which excite dyes added to the particles would be useful in the color-change detection system of Brandon. Applicants submit that the combination of Brandon and Chandler, even if made, does not teach or suggest each and every element of the claims as amended. Reconsideration and withdrawal of the rejection are respectfully requested.

Reconsideration and reexamination are respectfully requested. It is submitted that, in light of the above remarks, all pending claims are now in condition for allowance. If a telephone interview would be of assistance, please contact the undersigned attorney at 612-677-9050.

Respectfully submitted,

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